Address – Reference Guide
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Summary: Address

Definition

The address of a patient or a health care provider (an individual, group, or organization that provides medical or other health services or supplies).

Data Storage and Field Values

There are 7 data elements used to define the data concept Address. The variable names noted below specifically apply to the current address of the subject of the report. Variable names for other uses of Address, such as previous address or address of physician, are not discussed in this document but will be discussed in subsequent releases.

Address Block/Street Address

Description:	Street address
Variable Name:	ADDBLK
Type:	character
Length:	131
Reported to CDC:	No
Storage Format:	131 consecutive characters
Display Format:	66 charcaters on line 1 65 characters on line 2
Field Values:	Free-form entry field

Zip Code

Description:	Postal zip code
Variable Name:	POSTCD
Type:	character
Length:	15 *
Reported to CDC:	No
Storage Format:	
USA addresses:	nnnnn or nnnnn-nnnn
All other addresses:	nnnnnnnnnnnnnnn
Display Format:	
USA addresses:	nnnnn or nnnnn-nnnn
All other addresses:	nnnnnnnnnnnnnnn
Field Values:	Free-form entry field. Value is checked against a postal zip code reference file.

* Field is 15 characters to accommodate 15-character international postal codes.

City/Town
Description: City name
Variable Name: CITY
Type: character
Length: 30
Reported to CDC: Yes
Field Values: List of valid values is obtained from a FIPS reference file. City/Town selection list is dictated by the value of the entered postal zip code.

County
Description: County name
Variable Name: COUNTY
Type: character
Length: 30
Reported to CDC: Yes
Field Values: List of valid values is obtained from a FIPS reference file. County selection list is dictated by the value of the entered postal zip code or city/town.

State/US Territory
Description: Abbreviation
Variable Name: STATE
Type: character
Length: 2
Reported to CDC: Yes
Field Values: List of valid values is obtained from a FIPS reference file. State/Territory selection list is dictated by the value of the entered postal zip code, city/town, or county.

Country
Description: Country name
Variable Name: COUNTRY
Type: character
Length: 45
Reported to CDC: Yes
Field Values: List of valid values is obtained from the ISO 3166/FIPS 104 reference file.

(Note: A separate section is dedicated to the country data concept for use by programs collecting country data outside of an Address arena. Refer to the "Country" section for more information.)

Note: As described above, standards and guidelines for city, county, and state data are issued as Federal Information Processing Standards (FIPS) and are available for use government-wide. The standards and guidelines for country data are available from the International Organization for Standardization (ISO), a worldwide federation of national standards bodies from some 130 countries. A separate document on FIPS-related and ISO-related reference tables is being planned, and will be available in the future.

OPTIONAL DATA ELEMENT: Local Field for State Use
Description: For state use only. Available for collection of address-related data specific to state interest (e.g., District or Region).
Variable Name: LOCADDR
Type: character
Length: 40
Reported to CDC: No
Field Values: States define and control the valid values for this field. The field was put in place in recognition of states' needs to collect data on local district or region. States may choose to provide a list of valid values, or to control the valid values based on the value of existing zip code, city, and/or county data.

Missing Values

If Address data are missing, or do not adhere to the CIPHER standard, the data element may be noted as blank to indicate a missing value. If the program requires the reason the value is missing, a separate 1-character field should be used to note the reason for the missing data. The use of a Missing Value Reason data element applies only when all components of the address are blank. If there is at least 1 non-blank component, Missing is not applicable. The use of a Missing Value Reason data element must adhere to the CIPHER definition and rules associated with missing data as described in Appendix I - Missing Value Reason.

Processing Overview

Special requirements apply. Refer to the Implementation subsection on Data Processing: Validations and Edit Checks, below, for detailed information.

EDI Summary

Note: EDI sections are under construction.

Discussion

The Address data concept is useful for patient follow-up, as well as determining the location of a health care provider. A health care provider can be a physician or other practitioner; a physician or practitioner group; an institution such as a hospital, laboratory, or nursing home; an organization (e.g., a health maintenance organization); or a supplier (e.g., pharmacy or medical supply company).

The CIPHER Address data concept is therefore intended to be a general concept or definition applicable to a person or an organization. Note: The CIPHER Address format is compliant with the hybrid Address format supported in the Common Data Element Guide prepared by the Health Information and Surveillance Systems Board's Standards and Liaison Committee (HISSB S&L CDE Guide).

Implementation: Address

The implementation examples noted below specifically apply to the current address of the subject of the report. The implementation for other uses of address, such as address of physician, can be patterned after these implementation examples.

Data Collection: Hardcopy Report Form

Address data are collected on the hardcopy report form through a number of free-form entry fields. Refer to Figures 1 and 2 for examples of hardcopy forms used to collect Address data.

Figure 1: **Blank Hardcopy Form section used to collect Address data**

Address

Street: _____

_____

City: _____ **County:** _____ **State:** ____ **Zip Code:** _____ - ____

Country: _____

Figure 2: **Completed Hardcopy Form used to collect Address**

Address

Street: **333 Maple St.**

Apt. G

City: **Atlanta** **County:** **Fulton** **State:** **GA** **Zip Code:** **30307** - ____

Country: **US**

Missing Values – Hardcopy Form

Examples of hardcopy forms using the associated Missing Value Reason data element can be found in Appendix I – Missing Value Reason. The hardcopy form need only contain a missing value reason if the program requires the rationale for a missing value for an Address variable.

Data Entry: Electronic Forms

With the exception of the Street Address (in which free-form entry fields are used), pull-down menus are used to display entry options for the other Address components (zip code, city, county, state, and country) as shown in Figures 3 through 7.

Note: Case sensitivity is retained from data entry through storage. Thus, the free-form entered Street component data are stored EXACTLY as they are entered (UPPERCASE, lowercase, or a mixture of both).

The other Address data elements of zip code, city, county, state, and country are coupled to reference tables. As illustrated in the figures below, the valid values displayed in the pull-down menus associated with these data elements are dictated and controlled by these externally obtained but internally maintained reference tables.

As discussed in Data Processing: Validations and Edit Checks (below), the subset of the values deemed valid for entry is dependent on the cross-mapping and relationship among the values of the entered Address component data (zip code, city, county, and state data). Since zip code data are closely tied to a particular city, within a particular county, within a particular state, zip codes are the first data entered among the data elements linked to reference tables.

The association to reference files, as well as the cross-mapping of values, are performed through the system control for the Address data concept. The illustrations in this section represent a portion of the controls available through the Address system control. These include populating (automatically filling) address components based on the value of previously entered data, and limiting the pull-down menu display so that options are limited to those deemed appropriate based on the cross-mapping and relationship among the values of the entered Address component data. For more information on other features available through the Address control, refer to the System Architecture Guide.

Figure 3: **Blank Electronic Form used to collect Address data**

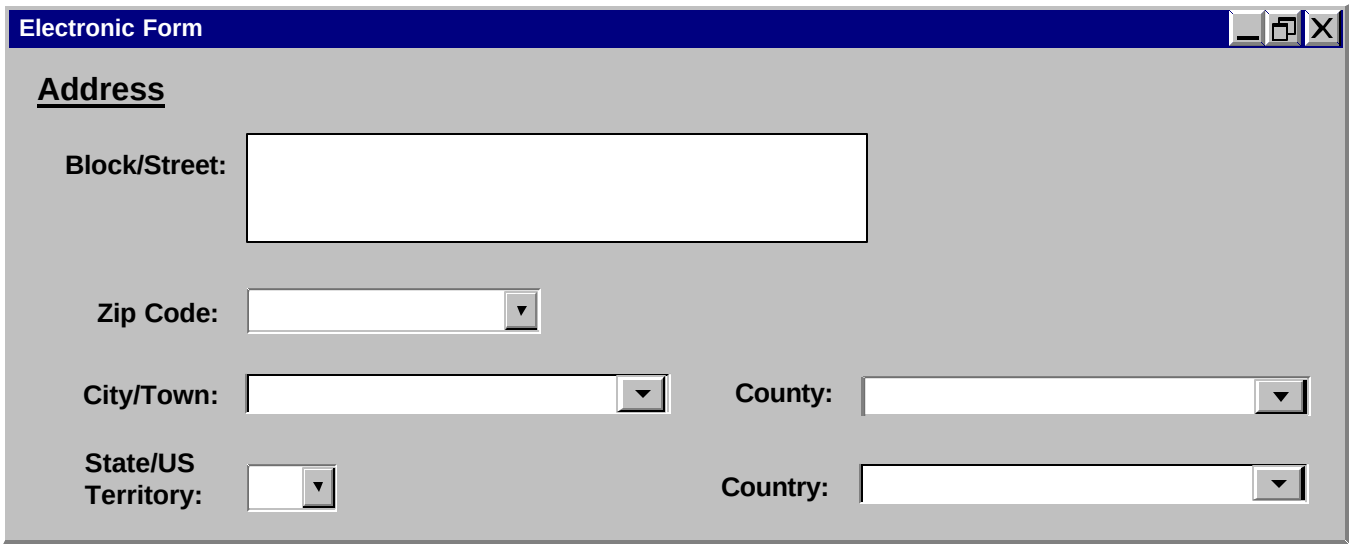
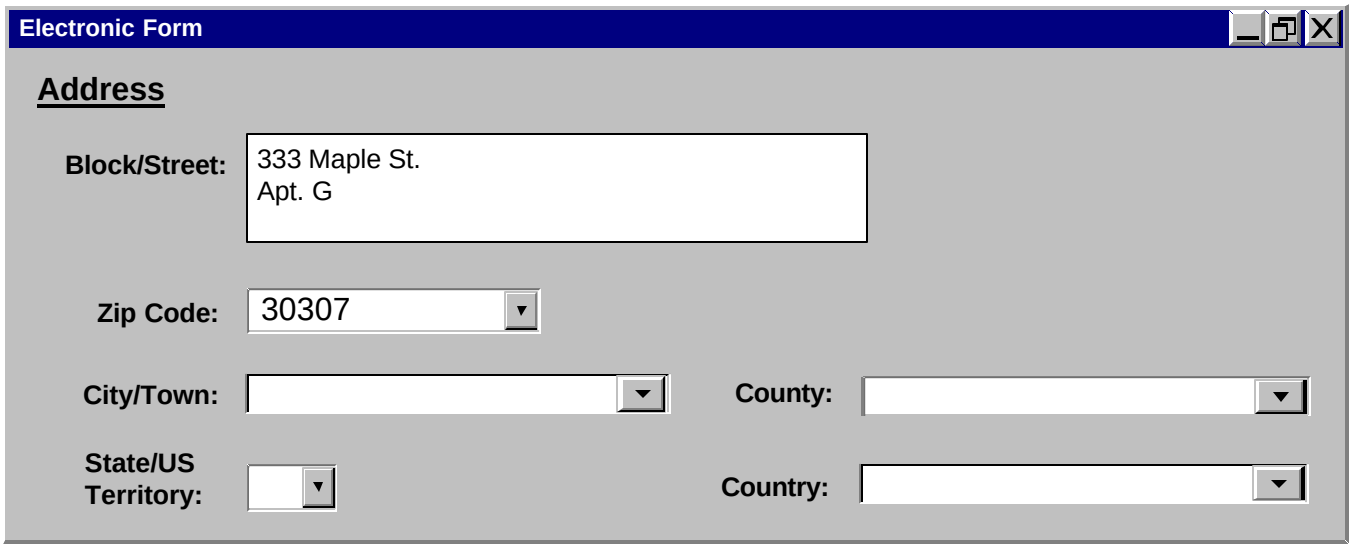
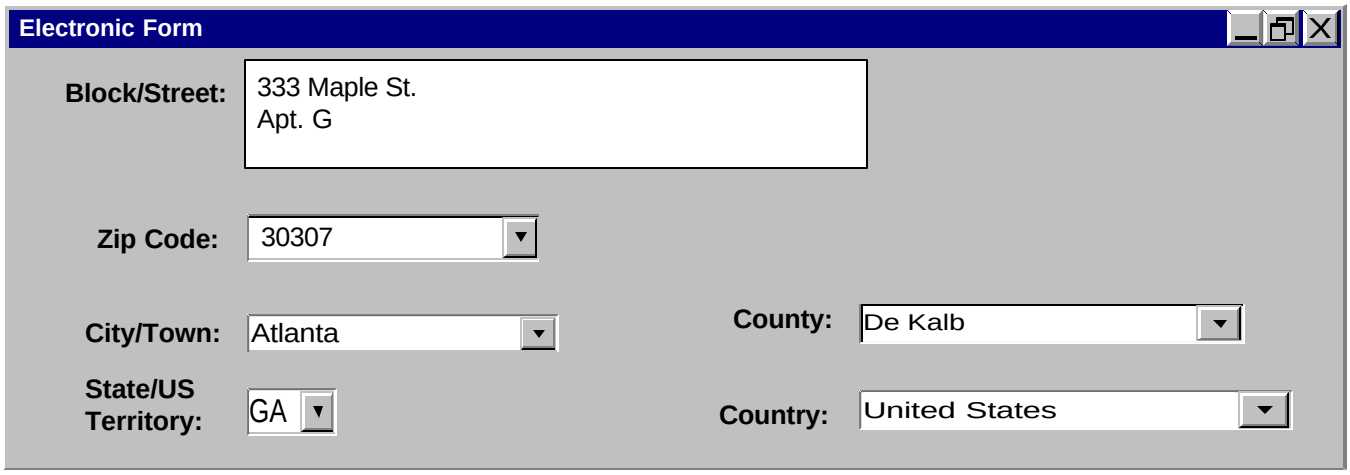


Figure 4: **Electronic Form used to collect Address data. Street Address and zip code data are key entered in this example.**



The entered zip code data triggers the Address control to populate the remaining address components with data that represent the city, county, state, and country of the zip code. Refer to Figure 5 below.

Figure 5: **Entry of a valid zip code results in the population of the remaining address components with data that reflect the entered zip code.**



The entry operator can access pull-down menus for data fields that were populated, and make any necessary adjustments. In our example, the zip code "30307" is used in two Georgia counties: DeKalb and Fulton. The Address system control populated the county field with the first county found in the Reference Table that reflected the entered zip code (DeKalb). The user can access the county pull-down menu and select the other county associated with this zip code (Fulton). Refer to Figures 6 and 7 below.

Figure 6: **County pull-down menu activated – allows user to change value to something other than the default value assigned by the system control.**

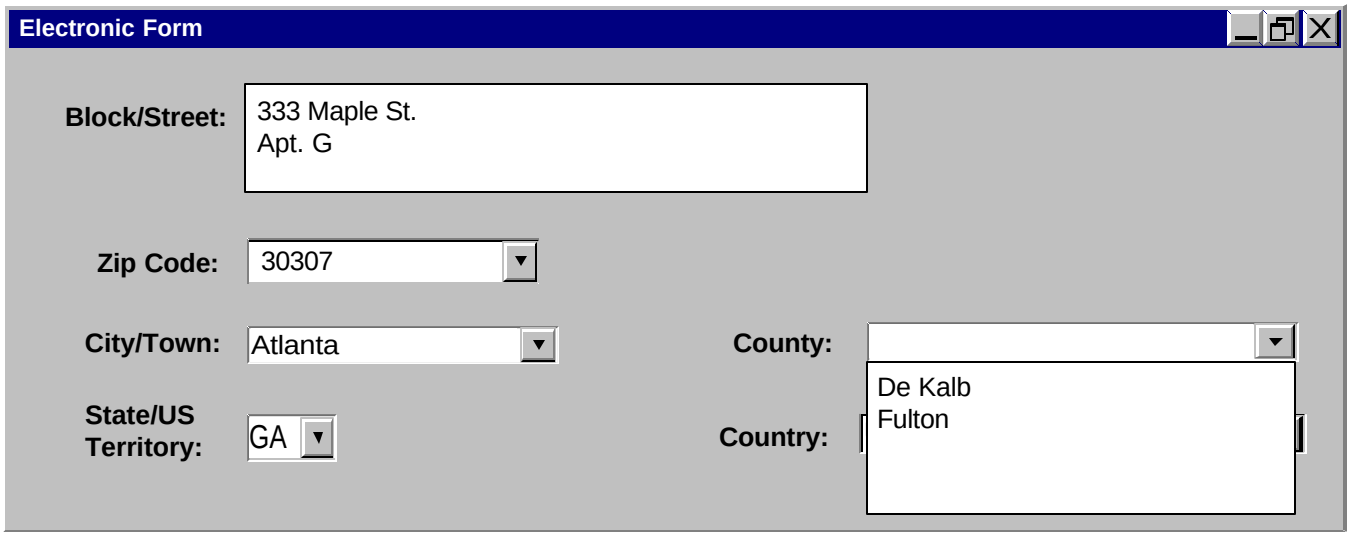
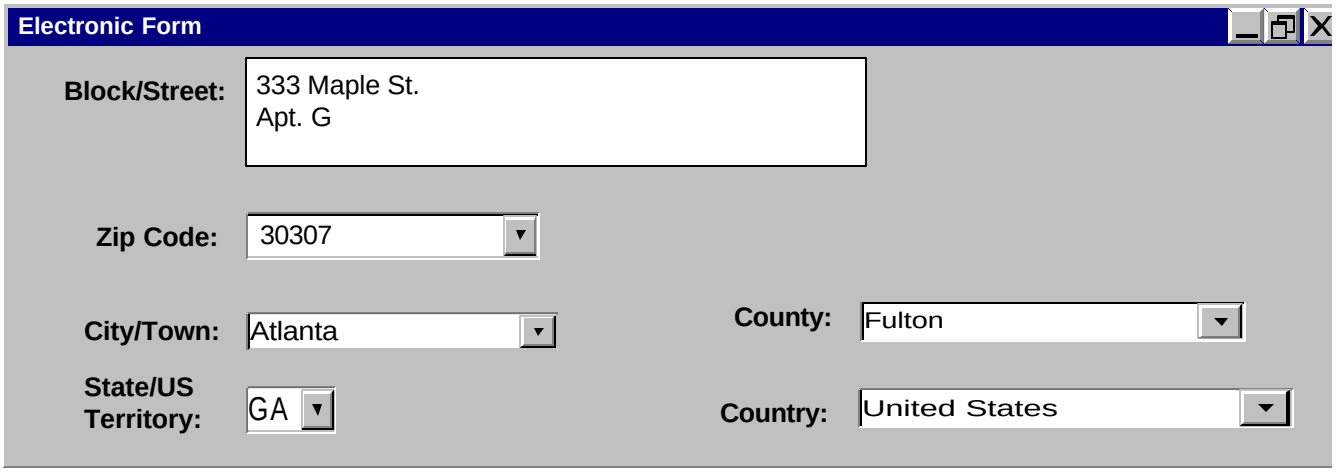


Figure 7: **Completed electronic form used to collect Address.**



Missing Values – Electronic Form

Examples of electronic forms using the associated Missing Value Reason (MVR) data element can be found in Appendix I – Missing Value Reason. The electronic form needs to handle the Missing Value Reason only if the program requires the rationale for a missing value for the particular Address variable. If the user selects a missing value reason code during data entry, the field will be blank and the screen will display the MVR information next to the blank field.

Data Processing: Validations and Edit Checks

Data elements entered in the electronic form will be edited as outlined below. If the program elects to use an associated Missing Value Reason data element for an Address variable, it will be edited as outlined in Appendix I – Missing Value Reason. The use of a Missing Value Reason data element applies only when all components of the address are blank. If there is at least 1 non-blank component, Missing is not applicable. Other validations and edit checks are noted below:

- Various data elements in the Address data concept are coupled to reference tables. The valid values for these data elements are dictated and controlled by these externally obtained but internally maintained reference tables.

  For example, the valid values for the zip code data element are obtained from a postal zip code reference table, the valid values for the city/town and county data elements are obtained from FIPS tables, and the valid values for the country data element are obtained from the ISO 3166/FIPS 104 table. The cross-mapping and relationship

among the values entered for zip code, city/town, county, and state must be consistent.

Because the value of the zip code affects the choices for subsequent data elements, the electronic entry forms are designed so that zip code data are the first data entered among the data elements linked to reference tables. Only those values considered valid are displayed in the respective pull-down menus.

These cross checks apply to any combination of zip code, city, county, state, and country data. For example, if zip code data are not available/entered, the above-noted reference table cross checks are applied to the remainder of the address components.

The association to reference files, as well as the cross-mapping of values, are performed through the system control for Address. The illustrations in this section represent a portion of the controls available through the Address system control. These include populating (automatically filling) address components (e.g., city, county, and state) based on the value of previously entered data (e.g., zip code), and limiting the pull-down menu display to choices appropriate for the values entered. For more information on other features available through the Address control, refer to the System Architecture Guide.

- Each reference table contains a set of table identifiers (*version, date effective,* and *date ineffective*) which are used to track and catalog the currently active/supported version of the reference table. As reference tables are modified, a "snapshot" of the previous version of the table is taken and stored before updating and replacing the table with the current version. This enables programs to access previously active versions of reference tables. Furthermore, these identifiers enable programs to track the version of the reference table that was accessed at the time the address data were entered/stored in the record. This is advantageous in situations in which the stored address data, based on an older reference file, have changed or are no longer supported in the current version of the reference file. In such cases, a program can enable access to the "snapshot" of the reference table data that were active and supported at the time the address data were originally entered. (A separate document on Reference Tables is being planned, and will be available in the future.)

- The above-noted Reference Tables also contain additional FIPS data including state, city, county, and country FIPS codes associated with the textual descriptions. A component (to be developed in the future) can be used during analysis to access data in the reference tables other than the textual descriptions stored in the CIPHER record. The textual descriptions stored in the CIPHER record serve as a link to the reference table data.

- A component (to be developed in the future) parses the data entered in the zip code field and stores the text in one of three formats: nnnnn, nnnnn-nnnn, or nnnnnnnnnnnnnn. The format that is applied depends on whether the entered zip code is a United States 5-digit zip code (stored/displayed in nnnnn format), a United

States 5-digit zip code followed by a hyphen and a 4-digit extension (stored/displayed in nnnnn-nnnn format), a United States 9-digit zip code entered as 9 consecutive digits (stored /displayed in nnnnn-nnnn format), or a non-United States postal code (stored/displayed in nnnnnnnnnnnnnn format).

Unless the country specified is other than United States, a United States Territory, or blank, the zip code is presumed to be a United States zip code and is therefore stored/displayed in nnnnn format if only 5 digits are specified, or in nnnnn-nnnn if more than 5 digits are specified.

If the country specified is non-blank, and is not the United States or a United States Territory, the zip code is presumed to be an international postal code and is stored/displayed in nnnnnnnnnnnnnn format.

- As noted in the Electronic Entry screen examples in the Implementation section, pull-down entry menus are associated with address components, which are linked to reference tables (zip code, city, county, state, and country). The values displayed in the pull-down box can be more narrowly defined through the action of keying in only the first few characters of the entry text. For example, the entry operator can key in "303" in the zip code field. The list of valid zip codes displayed in the pull-down menu will contain all zip codes that start with the characters "303". Similarly, the entry operator can key in "AT" in the city field. The list of valid city names displayed in the pull-down menu will contain all city names that start with the characters "AT".

- The Street Address component is stored in a variable that allows for 131 characters. However, the data are electronically entered and displayed using two lines of data with 66 characters entered/displayed on the first line and 65 characters entered/displayed on the second line.

Data Processing: From Hardcopy to Storage

The following example illustrates the flow of information from data collection on the hardcopy form, to data entry into the electronic form, to validations and storage in the database.

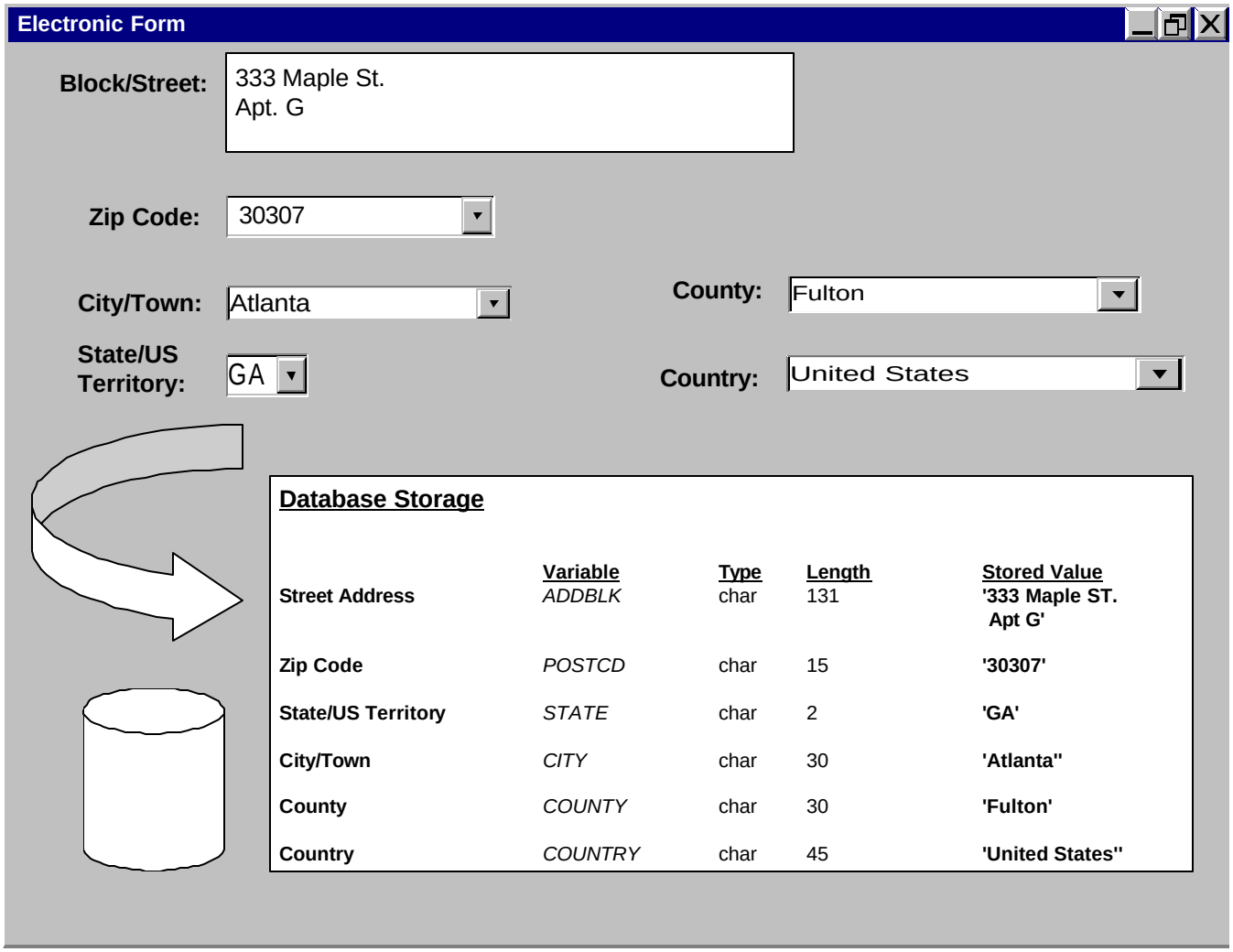
The process begins with the blank Hardcopy data collection form used to collect Address:

The Address information is captured on the form, creating a completed Hardcopy data collection form:

The process continues with a blank Electronic form/data entry screen used to capture Address:

The value from the hardcopy form is entered into the Electronic form/data entry screen with the use of drop-down lists of valid values, and then the edits and validations are performed on Address:

The completed Electronic form/data entry screen is redisplayed and Address is stored in the database. Note that free-form entered Street component data are stored in the database in the exact case (UPPERCASE, lowercase, or a mixture of both) in which electronically entered:



Data Transmission: Electronic Data Interchange

All Address-related data will be formatted using the appropriate set of unique identifier codes noted in the CDC/Census Address Classification table, prior to any type of electronic data interchange.

The remainder of the EDI section is under construction.